

Clinical Application of Patient-Centered Diabetes Care for People With Serious Mental Illness

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■ **IN BRIEF** Patients with serious mental illness (SMI) have markedly higher mortality rates than those without SMI. A large portion of this disparity is explained by higher rates of diabetes and cardiovascular illness, highlighting the need for people with diabetes and SMI to have access to the highest quality diabetes care. This article applies principles of patient-centered diabetes care to those with SMI, exploring a novel approach to diabetes care embedded within a community mental health setting.

People with serious mental illness (SMI) are approximately twice as likely to develop diabetes and have an average life expectancy that is 10–25 years shorter than that of their peers without SMI (1). Increased morbidity rates have been attributed to a range of factors, including psychiatric medication–associated weight gain and lifestyle factors (2,3). The marked disparity in mortality rates, although also associated with a range of factors, is most strongly accounted for by the significantly higher rates of diabetes and cardiovascular illness (1,4).

People with SMI are not only more likely to develop diabetes, but also may be at a disadvantage in accessing quality diabetes care (5). There continue to be disparities in a number of specific markers of quality diabetes care between people with diabetes and SMI and those with diabetes alone. For example, people with SMI are less likely to be offered A1C or cholesterol testing, and those who are diagnosed with diabetes are less likely to receive diabetes education (6) or to be referred for foot care, retinal exams, or renal testing (7). Likewise, people with SMI and diabetes are less likely to be prescribed

statins, ACE inhibitors, or angiotensin receptor blockers than those with diabetes alone (7).

In parallel to these concerns about disparities in outcomes and unequal provision of care, general health care trends have increasingly emphasized the ethical importance and practical benefits of patient-centered treatment approaches (8,9). Calls for patient-centered interventions are found in both the diabetes and SMI literature and share a basic set of principles. However, despite these calls for more patient-centered clinical approaches, as well as increased recognition of the important public health implications of the intersection of diabetes and SMI (10), to date there has been limited research attention paid to specific clinical considerations to guide professionals in offering high-quality, patient-centered diabetes care to patients who are also diagnosed with SMI. There remains an urgent need to not only address disparities in processes of care for people with SMI, but also better equip health care providers (HCPs) with the necessary knowledge and intervention strategies to effectively offer patient-centered treatment ap-

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<https://doi.org/10.2337/cd17-0041>

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proaches to people with comorbid SMI and diabetes.

Accordingly, in this article, we will first briefly detail several key principles of patient-centered treatments that appear to be of central importance to clinical work with people diagnosed with both SMI and diabetes. We will then offer a clinical vignette as one example of a patient-centered approach in a novel multidisciplinary treatment setting that illustrates effective treatment engagement of a man with longstanding schizophrenia and uncontrolled diabetes. After the vignette, we will discuss some of the key issues highlighted by this case and opportunities to more broadly apply these principles across health care settings serving people with SMI.

Principles of Patient-Centered Care

The foundation of patient-centered approaches is a broad focus on the whole person, rather than a narrow focus on a specific illness (9). In terms of a general framework, patient-centered approaches share the following characteristics: 1) an understanding of and sensitivity to the whole person as an individual, 2) efforts by HCPs to establish consensus with patients on problems and individualized priorities for intervention, 3) ongoing emphasis on optimizing the treatment alliance (patient-provider relationship), 4) realistic goal-setting, and 5) facilitation of self-directed self-management of health care behaviors (9). Embedded in this general patient-centered framework are a number of more specific issues relevant to the implementation of patient-centered care of people diagnosed with both SMI and diabetes. Although there are likely any number of factors relevant to this intersection of clinical concerns, we will review here four concepts that appear to be of particular importance: 1) awareness of stigma and efforts to minimize its impact, 2) attention to potential challenges of “poor insight” into self-

management (and precontemplative stage of change), 3) cultivation of a collaborative patient-provider relationship, and 4) promotion of a sense of personal agency.

Stigma

Stigma of mental illness remains prevalent in all quarters of society, including within health care systems and among HCPs (11). Despite extensive evidence refuting stigmatizing views of SMI, research has repeatedly found that members of the general public believe people with SMI to be dangerous and desire social distance from them (12). Others have suggested that stigmatizing attitudes of HCPs may contribute to the unequal provision of diabetes care to people with SMI and this to subsequent poorer health outcomes (11). In addition, it is common for patients with SMI to internalize stigmatizing beliefs about mental illness, which may further contribute to poorer outcomes, a link that has already been established with regard to mental health outcomes (13).

Stigmatizing beliefs held by either HCPs or patients themselves may contribute to expectancy effects, wherein patients with SMI, particularly those with a prolonged course of illness and persistent symptoms, are viewed as incompetent or unwilling to follow up with diabetes self-management. Especially in those who have a history of poor adherence to psychiatric medicines, treatment teams may generalize patients' reluctance to take psychiatric medicines to a poor prognosis for adhering to other medical recommendations.

Contrasting with these views, however, is some evidence suggesting that, when the quality of treatment is equal, patients with SMI have diabetes outcomes that are at least similar to those of people with diabetes but without SMI (6,14). Multiple studies have reported that people with SMI demonstrate higher rates of adherence to diabetes medications than those with diabetes alone (15–17).

These findings suggest that, although stigma may interfere with the implementation of patient-centered care, people with SMI do not appear to be any less likely to follow and benefit from diabetes care.

“Poor Insight”

General models of help-seeking suggest that a person must acknowledge a need for assistance before being able to effectively seek and benefit from help (18). However, not all patients diagnosed with serious health concerns can identify the presence of symptoms, recognize the consequences of illness in their lives, or acknowledge the need for treatment. Some people might, for example, minimize early signs of diabetes such as fatigue or polyuria, or, despite being diagnosed with diabetes, report that they do not believe they need treatment.

In the diabetes literature, this phenomenon of patients denying the need for treatment is sometimes understood through the lens of the Stages of Change model, with such individuals assessed as being in the precontemplative or contemplative stage of change (19). Turning to SMI, people might reject feedback that they are behaving unusually or insist that they are not mentally ill but instead have fallen victim to a covert conspiracy to manipulate or control them. In the SMI literature, such difficulties in acknowledging the presence of a psychiatric disorder have been addressed in an extensive body of research exploring the concept of “poor insight,” a phenomenon that has been noted to affect as many as 50–75% of people diagnosed with schizophrenia. The insight literature related to SMI is complex and not without controversy; competing models of insight have been introduced, and there are different views regarding the implications for treatment (20).

Although a comprehensive exploration of the implications of poor insight in mental illness is beyond our scope, it is important to acknowl-

edge two specific issues linked to the concept. First, poor insight has long been viewed as an indicator of poor prognosis, has been positioned as a barrier to collaborative treatment, and has served as a rationale for more paternalistic, coercive intervention strategies (21,22). Second, potentially in contrast to the view of poor insight as a barrier to collaboration and of particular importance to diabetes care, distinctions have been made that poor insight into mental illness does not equate to a global loss of awareness, and that despite the inability to acknowledge the presence of serious psychiatric symptoms, many of these individuals may be perfectly capable of making accurate assessments of and decisions related to other medical concerns (23). We are unaware of any empirical study that has investigated how commonly HCPs hold the latter, more nuanced view of insight, in which a person's rejection of the presence of mental illness does not necessarily mean that person would be unable or unwilling to work collaboratively on other medical concerns. Given the evidence that stigma remains prevalent in professionals' views of mental illness, this key distinction appears important to convey to any HCP working with people with poor insight and comorbid medical conditions.

Patient-Provider Relationship

There are a number of specific concepts and practices that contribute to an interpersonal and communicative style and inform the type of patient-provider relationship that aligns with patient-centered care. At perhaps the most basic level, to develop a therapeutic relationship in which shared decision-making is emphasized, communication must involve the elicitation of patients' perspective on their life and preferences for treatment and attempts to engage in genuine collaboration. This preferred type of therapeutic healing relationship involves an equal dialogue in which clinicians at-

tend to patients' perspectives and value their input and involvement (24).

This spirit is also reflected in motivational interviewing approaches found in many areas of health care (25,26). Shared decision-making approaches to prescribing have likewise been posited as important in general medicine and psychiatry (27,28). These approaches value patients' expertise in their own lives, preferences, and readiness, while also valuing HCPs' professional expertise.

In a truly patient-centered approach, attempts should be made to reduce the power differential between HCPs and patients in a way that invites collaboration and encourages patients' self-determination. Along with this more consultative stance of HCPs toward patients, the content of the communications is also important, and careful attention should be paid to avoid stigmatizing or pejorative terms or to otherwise conveying messages that promote pessimism or implicitly reinforce unfounded negative stereotypes.

Promotion of Sense of Personal Agency and Hope

Living with a chronic medical illness or experiencing prolonged mental illness can take a substantial toll on a person. In particular, a range of factors associated with the experience of chronic illness may erode patients' sense of personal agency, that is, their sense of being able to affect or influence their choices, experiences, and destiny (29). The concept of personal agency in people with illnesses has been linked to a sense of being able to assume control of their lives, effect change, and ultimately engage effectively in self-management behaviors. The concept has been a topic of interest in philosophical, mental health, and general health texts (30–32).

People with chronic medical conditions such as diabetes often report feelings of hopelessness and a lack of perceived control over their health and well-being (33). In a perhaps more pronounced way, the loss of a

perceived sense of agency has been suggested as a central contributor to the levels of disability associated with SMI (34). An improved sense of agency and enhanced self-efficacy are associated with improved outcomes in people with SMI (35). Likewise, the combination of self-efficacy and beliefs about being able to achieve positive results are associated with better glycemic control in people with diabetes (36). Thus, a fundamental task in patient-centered approaches is to maintain or promote hope in patients, while avoiding intervening in a way that reinforces pessimism or passive hopelessness. Patient-centered approaches aim to enhance patients' ability to understand that they remain agents in their own lives by facilitating and reinforcing beliefs that, despite facing serious challenges, they can develop the skills to make choices and engage in self-management in a manner that allows them to develop an enhanced sense of control and to pursue wellness.

We suggest that these four concepts are closely interrelated within patient-centered care. Unacknowledged stigma on the part of HCPs or patients may contribute to undue pessimism regarding the possibility of successful diabetes intervention for people with SMI, which in turn may contribute to a lower quality of health care. Stigmatizing or uninformed understandings of the concept of poor insight may further contribute to these expectancy effects and to unequal provision of health care and may also serve as a barrier to the development of the type of collaborative patient-provider relationships that serve as the cornerstone of quality patient-centered care. However, if HCPs are able to minimize the impact of stigma and cultivate effective treatment alliances, there are significant opportunities to use enhanced patient-provider relationships to promote the development of a sense of personal agency and hope, which appear important in

promoting self-management efforts and positive outcomes.

To further illustrate and explore possible clinical applications for patient-centered approaches in people with SMI and diabetes, we describe below a novel treatment setting and offer a case vignette providing one example of effective engagement in patient-centered care for a man with chronic SMI and poorly controlled diabetes.

Description of Clinical Setting

The treatment setting in the following case vignette is a primary care clinic embedded within a large, urban community mental health center linked with the county hospital system of a large city in the midwestern United States. The primary care clinic is located inside the larger mental health clinic, which houses several outpatient and community-based mental health treatment teams providing comprehensive mental health services for adults with SMI. The primary care clinic provides care exclusively to patients already connected with one of the mental health center's treatment teams. This allows clinic patients who have high levels of mental health needs to have an equivalent of the patient-centered medical home model, wherein they can receive comprehensive outpatient mental health services, as well as full access to primary care services in the same building.

The primary care clinic is staffed by two physicians, two advanced practice nurses, one registered nurse, one dietitian, one clinical pharmacist, and several medical assistants. The clinical pharmacist (J.D.G.) runs a cardiovascular risk reduction clinic (CVRRC). She practices under a collaborative practice agreement with the clinic's physician, meets directly with patients for diabetes education, and is able to initiate and change medications and order relevant laboratory tests according to a defined scope of practice.

Case Vignette: Percy

Percy is a man in his 50s who has been diagnosed with schizophrenia since his early 20s and was noted to have type 2 diabetes upon initial assessment at the health system in 2013. Since then, his A1C steadily increased from 7 to 13.9% at the time of his referral to the CVRRC. Percy was court-committed to outpatient mental health treatment, which consists of linkage to a community-based treatment team that offers medications and intensive case management. Throughout his involvement with his current mental health team, Percy has not acknowledged that he has a mental illness.

His court commitment dictated that he take psychiatric medicines, which included a complicated regimen of both a traditional and a second-generation antipsychotic. At the time of the initial referral to the CVRRC, the only medications he was prescribed for diabetes were metformin and glipizide. In contrast to the psychiatric medications, adherence to diabetes medications was not required as a part of his court commitment. The mental health team assists Percy in managing his medications, with a nurse providing him with prefilled medication boxes every week. In the months preceding his referral to the CVRRC, Percy had reported to his mental health team that he did not need to be treated for diabetes, stating that he was "going to be cured by God" and repeatedly expressed plans to imminently relocate to Europe, where he would become a successful businessman.

Despite repeated encouragement from both his psychiatrist and his primary care physician, Percy had historically been reluctant to follow through with most recommendations for diabetes intervention. Nevertheless, he was agreeable to a referral to the pharmacist-led CVRRC. At his first appointment, Percy presented with highly disorganized speech, loose associations, and tangential thought content,

making his speech nearly incoherent. This disorganization proved to be a significant barrier to reciprocal conversation in this first meeting, and J.D.G.'s efforts largely consisted of inquiring about Percy's view of his current needs, offering basic information about her services, attempting to establish rapport, and inviting Percy to follow up in 1 week.

Percy returned for a second appointment, this time slightly less disorganized, but with increased focus on delusional ideas. He produced a number of sheets of paper that included disorganized writing. He asked J.D.G. to read these writings to understand the status of his diabetes and would not explore additional recommendations at that time. During the third and fourth visits, Percy appeared much less disorganized. He remained reluctant to initiate additional medications, but became increasingly open to discussing his current dietary preferences. J.D.G. listened carefully and assisted Percy in exploring alternative lower-carbohydrate options as part of his regular diet. She revisited recommendations to begin additional medication and inquired about Percy's apprehensions to do so. In the fifth appointment, less than 3 months after the first appointment, before J.D.G. raised the topic of medicine, Percy suggested that he was ready to "start shots." He said he was not comfortable injecting himself but would be open to someone else administering injections.

After this appointment, Percy began following up every week for injections of an extended-release glucagon-like peptide 1 (GLP-1) receptor agonist that were administered by clinic staff. He continued to discuss with J.D.G. his ongoing efforts to modify his diet, which included avoidance of cookies and sugary soft drinks. Of note, there was noticeably less delusional content during these appointments, and Percy's speech was generally organized and easily understood. He continued to have flattened affect and slow, monotone speech, but behaviorally and verbally, he was

increasingly open and receptive to feedback and forthcoming regarding his successes and setbacks in managing his diet and exercise. During this time, no changes had been made to either his psychiatric medicines or his participation in other mental health services.

Four months after his initial referral to the CVRRC, Percy's A1C had increased from 13.9% (estimated average glucose [eAG] 352 mg/dL) to 14.7% (eAG 375 mg/dL), just before he initiated treatment with the GLP-1 receptor agonist. Seven months after his initial referral to the CVRRC, Percy's A1C had decreased to 11.3% (eAG 278 mg/dL), and 11 months after referral, his A1C had dropped to 9.3% (eAG of 220 mg/dL).

Percy continues to arrive every week for his injection. He reports efforts to maintain healthy changes to his diet. In J.D.G.'s judgment, Percy would receive optimal benefit from initiation of an intensive insulin regimen. However, because Percy maintains reluctance to do so, J.D.G. continues to work with him on interventions he is open to, while occasionally revisiting with him the possible benefits of daily insulin injections and exploring his apprehensions toward this option.

After he achieved an A1C of 9.3%, J.D.G. inquired about any subjective changes Percy may have noticed as his blood glucose had improved. Percy remarked that the only change was that his "mind is clearer now." Consistent with this reflection, Percy's mental health providers have remarked on observable differences in his outlook and approach to their appointments. Despite continuing to experience persistent disability, his team members have reported that he has shared his successes related to diabetes and has had become noticeably more focused and goal-directed in his approach to the clinic. He continues to maintain that he does not have a mental illness.

Discussion

Despite being a single case description, the practice described above contains a number of important clinical implications related to innovative approaches to patient-centered care.

First, from a systems perspective, having a multidisciplinary primary care team embedded in a mental health clinic offers several advantages. Health care for people with SMI often remains fragmented, and this model offers a number of the important identified benefits of the patient-centered medical home model that may be less available in general to people with SMI, whose psychiatric needs may not be adequately addressed in primary care clinics with limited available services for more severe mental health concerns. In this case vignette, referrals and care coordination were enhanced by the various treatment providers' ability to directly consult with other members of the treatment team, and Percy's longstanding familiarity with the clinic and frequent presence in the building made it easier to establish rapport and schedule frequent follow-up appointments. Additionally, after both of the first two appointments in which Percy's psychiatric symptoms were more disruptive to establishing consensus, J.D.G. sought out the clinic's psychologist for consultation on possible strategies for more effective communication. These consultations not only assisted J.D.G. in considering communication strategies with Percy, but also helped explore any potential held biases about the possibilities of successfully intervening with a person with such apparent persistent symptoms. The availability of consultation with professionals with expertise in SMI appears to be a strength of this kind of multidisciplinary setting that not only enhances the continuity of comprehensive health care for patients, but also widens the available resources and support for professionals who may not have had advanced training in SMI.

The work with Percy also illustrates ways in which the four concepts described earlier come to bear on patient-centered care. Despite Percy being someone who would generally be considered to have poor insight into mental illness, this did not inhibit J.D.G.'s efforts, and the absence of stigma in the treatment approach is notable. This approach seems to have enhanced J.D.G.'s ability to be gently persistent with Percy and to cultivate a patient-centered patient-provider relationship. While not abandoning any expertise or withholding recommendations, J.D.G. focused the treatment she provided on Percy's preferences and individual goals, which appears to have subtly reinforced messages of agency.

Additionally, a number of concepts from the psychosis literature are made manifest in the early meetings between J.D.G. and Percy. These concepts are important for any HCP to be familiar with when working with people with SMI. First, Percy's disorganized speech (formal thought disorder) appears to have fluctuated markedly across interpersonal contexts and mood states. Although it proved to be an early barrier to communication, as rapport developed, the negative impact of this symptom dramatically decreased. Likewise, the delusions prominent in the second meeting receded in subsequent meetings. Importantly, these delusions were still regularly noted in contacts with mental health providers throughout the course of treatment, suggesting that the disruptive effect of held or expressed delusions for Percy varied across contexts and that, although Percy exhibited active delusions, he was able to focus and discuss diabetes management strategies with J.D.G. without any undue disruption from these symptoms. Third, Percy not only denied the presence of mental illness, but also initially provided rationale for not following certain recommendations using unusual and potentially delusional explanations. However, as he

developed a working alliance and rapport with J.D.G., he was able to quite coherently and realistically assess the status of his diabetes; acknowledge the need for treatment, as well as his own areas of ambivalence; and make realistic choices about management that fit his preferences and degree of readiness. Throughout these early appointments, the clinician maintained an interest in understanding Percy, did not give up in the face of psychiatric symptoms, and resisted adopting a stigmatizing approach by continuing to regard Percy as competent and capable of making decisions and as someone with whom she could potentially find common ground and work collaboratively.

As demonstrated in this case illustration, Percy's ability to participate effectively in patient-centered diabetes care while experiencing active symptoms of psychosis appears to challenge past practice conventions that controlling psychotic symptoms should always take priority over attempting to address diabetes (37). In Percy's case (and in many others like him), despite years of intensive pharmacological treatment, he continued to experience fluctuating levels of positive and negative symptoms and functional impairment. He was nonetheless successfully engaged in patient-centered diabetes intervention. Moreover, the diabetes-related successes he experienced seemed to be followed by improvements in his mental health status and general well-being, and Percy directly attributed his positive changes in his mental health status to improvements in his blood glucose levels.

Of note, from a clinical technique standpoint, the pharmacist's efforts did not involve marked deviation from general approaches to motivational interviewing or other patient-centered approaches described for people not diagnosed with SMI. Despite a large body of literature devoted to the positive effects of the motivational interviewing approach, the small amount of this literature

specifically devoted to work with SMI has been fairly narrowly focused on the outcome of medication adherence (38). In the case described here, the presence of SMI did not preclude the possibility for use of standard motivational interviewing techniques.

In addition to embracing the spirit of motivational interviewing, an additional characteristic of the interpersonal approach here might be described as gentle persistence and has been highlighted in certain writings in the SMI literature (22). Intense interpersonal ambivalence is common in people with SMI. Early treatment ruptures are to be expected, and high levels of suspicion and reluctance initially are understandable, especially in patients who have become accustomed to compulsory involvement in services they do not agree that they need. At no point in our case did J.D.G. pressure Percy into a certain option, but she also did not flee in the face of severe disorganization and unusual beliefs or behaviors.

Despite these potential important clinical insights, this case illustration is not without limitations. As is true of any case report, the results have limited generalizability due to unknown HCP effects or other uncontrolled variables. Regarding the potential role of HCP effects, it may be worth noting that, in addition to being a certified diabetes educator and board-certified pharmacist in diabetes management, J.D.G. also has training in motivational interviewing and has been using this clinical approach for a number of years. However, although she has more than 10 years of experience in working with patients with diabetes, she does not have any formal training or background in mental health care, and the early portions of this case occurred early in her experience practicing in a mental health setting. This fact may offer some optimism that the clinical techniques and attitudes described here need not be restricted to HCPs with extensive experience or training in SMI.

Of course, controlled investigation involving larger samples and a wider array of HCPs might offer additional support for the potential benefits of motivational interviewing and pharmacist-led approaches to diabetes care in people with comorbid SMI.

We also recognize that the practice setting described here, which includes the presence of a clinical pharmacist with a collaborative practice agreement that enables this type of clinical approach, as well as the availability of a full primary care clinic within a mental health center, may be a novel setting and unavailable in many areas. We would suggest, though, that the strengths of the clinical approach highlighted here need not be tied to a particular HCP discipline or physical setting. Rather, the promotion of hope, efforts to eliminate stigma, and collaborative patient-provider relationships rooted in shared decision-making should be translatable to a range of settings and to HCPs from any discipline. Despite this, further investigation of the range of potential benefits of embedded primary care within mental health clinics, as well as the role of clinical pharmacists as part of interdisciplinary teams, might be useful in ongoing efforts to address the significant morbidity and mortality disparities affecting people with SMI.

Summary and Conclusion

Patients experiencing SMI continue to face high levels of stigma in all quarters of society, and the substantial health care disparities they face are a growing and immediate public health concern. Patient-centered approaches to care are of ethical and practical importance in the care of people with comorbid diabetes and SMI. Patient-centered principles such as shared decision-making, individualized care, client choice, and promotion of hope are equally relevant to patients with or without SMI. Even in patients with poor insight into mental illness or persistent psychotic symptoms, patient-centered com-

munication, respect for client choices, gentle persistence, and the maintenance of optimism can have positive effects in terms of opportunities for improved diabetes self-management. Furthermore, novel multidisciplinary treatment settings such as the pharmacist-led CVRRC in a primary care clinic embedded in a mental health clinic may offer additional value in terms of continuity of care and enhanced engagement possibilities for comprehensive health care. The case vignette described here highlights one example in which a man was able to be effectively and collaboratively engaged in patient-centered management of his diabetes despite having active symptoms of psychosis, poor insight into mental illness, and a history of stated opposition to interventions addressing diabetes.

Duality of Interest

No potential conflicts of interest relevant to this article were reported.

Author Contributions

J.A.H. completed the literature review and wrote the first draft of the manuscript. K.D.B. offered additional guidance regarding the organization of the concepts throughout and contributed significantly to the writing of the stigma and patient-provider relationship sections. J.D.G. was directly involved in the clinical work described and contributed to the case vignette section of the manuscript. All three authors significantly contributed to editing and revising the manuscript. J.A.H. is the guarantor of this work and, as such, takes responsibility for the integrity and accuracy of the content.

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